

# Clarke<sup>®</sup>

## METALWORKER



**20mm DRILL PRESS**

**Model Nos. CDP501F**

**Part No. 6505590**

**OPERATING & MAINTENANCE  
INSTRUCTIONS**

SERIAL No. ....

0307





## DECLARATION OF CONFORMITY

We declare that this product complies to the following standards/directives:

■ **98/37/EC**

Product Description: **DRILL PRESS**

Model Number: **CDP RANGE**

Serial Number: See Front Cover

Signed

A handwritten signature in black ink, appearing to read "Lee Taylor".

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Engineering Manager

**Clarke**<sup>®</sup>  
INTERNATIONAL  
Hemnall Street, Epping, Essex CM16 4LG

Clarke International is a trading style of Clarke International Limited



When disposing of this product, do not dispose of with general waste. It must be disposed of according to law at a recognised disposal facility.

## INTRODUCTION

Thank you for purchasing your CLARKE 20mm Drill Press.

Before attempting to operate the machine, please read this instruction manual thoroughly, and follow all directions carefully. By doing so you will ensure the safety of both yourself and others around you, and at the same time, you should look forward to long and trouble free service from your Clarke Drill Press.

## GUARANTEE

This product is guaranteed against faults in manufacture for 12 months from date of purchase. Keep your receipt as proof of purchase. This guarantee is invalid if the product has been found to have been abused or tampered with in any way, or not used for the purpose for which it was intended. The reason for return must be clearly stated. This guarantee does not affect your statutory rights.

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# GENERAL SAFETY PRECAUTIONS

## **WARNING**

***As with all machinery, there are certain hazards involved with their operation and use. Exercising respect and caution will considerably lessen the risk of personal injury. However, if normal safety precautions are overlooked, or ignored, personal injury to the operator, or damage to property may result.***

1. KNOW YOUR MACHINE. Read the manual carefully. Learn the machines applications and limitations, as well as the specific potential hazards peculiar to it.
2. KEEP GUARDS IN PLACE and in working order.
3. EARTH ALL MACHINES. If the machine is equipped with three-pin plug, it should be plugged into a three-pin electrical socket. Never remove the earth pin.
4. REMOVE ALL ADJUSTING KEYS AND WRENCHES. Before starting, form the habit of checking to ensure that keys, wrenches and tools are removed from the machine.
5. KEEP WORK AREA CLEAN. Cluttered areas and benches invite accidents.
6. DON'T USE IN DANGEROUS ENVIRONMENT. Don't use machinery in damp or wet locations, or expose them to rain. Keep work area well lit.
7. MAKE WORKSHOP CHILDPREOF - with padlocks, master switches etc.
8. KEEP CHILDREN AND VISITORS AWAY. All children and visitors should be kept a safe distance from work area
9. DON'T FORCE THE MACHINE. It will do the job better and safer, at the rate for which it was designed.
10. USE THE RIGHT TOOL. Don't force a tool or attachment to do a job for which it was not designed.
11. WEAR PROPER APPAREL. Loose clothing, gloves, neckties, rings, bracelets, or other jewellery may get caught in moving parts. Nonslip footwear is recommended. Long hair should be contained.
12. USE SAFETY GLASSES. Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.
13. USE EAR DEFENDERS.
14. DON'T OVERREACH. Keep proper footing and balance at all times.
15. MAINTAIN TOOLS IN TOP CONDITION. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
16. ALWAYS DISCONNECT THE MACHINE before servicing or changing accessories.
17. CHECK FOR DAMAGE. If part of the machine (eg. A cover or guard), is damaged, it should be carefully inspected to ensure that it can perform its' intended function correctly. If in doubt, the part should be renewed. Damage to moving parts or major components should be Inspected by a qualified technician before operating the machine. Contact your local dealer for advice.

19. DO NOT STAND ON THE MACHINE. Serious injury could occur if the machine is tipped over. Do not store materials above or near the machine such that it is necessary to stand on the machine to get to them.
20. NEVER operate a machine when under the influence of alcohol, drugs or medication.
21. ALWAYS ENSURE THAT ADEQUATE LIGHTING is available. A minimum intensity of 300 lux should be provided. Ensure that lighting is placed so that you will not be working in your own shadow.

## ADDITIONAL SAFETY RULES FOR DRILL PRESSES

### **WARNING:**

**THIS MACHINE MUST NOT BE MODIFIED, OR USED FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT IS DESIGNED.**

1. IMPORTANT: You should not operate this machine unless you are thoroughly familiar with drilling machines and drilling techniques. If there is any doubt whatsoever, you should consult a qualified person.
2. Do not operate the machine until it is completely assembled, and you have read, and understood, this entire manual
3. Ensure the proper electrical regulations are followed, and that the machine is properly earthed.
4. Before switching the machine ON, ALWAYS:-
  - a. Ensure all chuck keys, spanners and wrenches are removed from the machine.
  - b. Examine the setup carefully, ensuring that the workpiece is perfectly secure.
  - c. Ensure your clothing is properly adjusted.
5. Make all adjustments with the power OFF.
6. Always use the correct drilling speeds for the drill size, and the type of material being drilled (see page 22).
7. NEVER leave the drill unattended whilst it is running. Turn the machine OFF and do not leave until it has come to a complete stop.
8. When you have finished with the machine, always remove and store the drill bits.
9. CAUTION: This Drill Press is designed for use with Drill Bits and Morticing attachments ONLY. The use of other cutting tools or accessories could be hazardous.
10. ALWAYS use clamps, or a drill vice bolted to the table, to hold the work. It should NEVER be held in bare hands.

# ELECTRICAL CONNECTIONS

Connect the mains lead to a standard, 230 Volt (50Hz) electrical supply through an approved 13 amp BS 1363 plug, or a suitably fused isolator switch.

## **WARNING! THIS APPLIANCE MUST BE EARTHED**

**IMPORTANT:** The wires in the mains lead are coloured in accordance with the following code:

Green & Yellow - Earth

Blue - Neutral

Brown - Live

As the colours of the flexible lead of this appliance may not correspond with the coloured markings identifying terminals in your plug proceed as follows:

Connect GREEN & YELLOW cord to terminal marked with a letter "E" or Earth symbol  $\frac{+}{-}$  or coloured GREEN or GREEN & YELLOW.

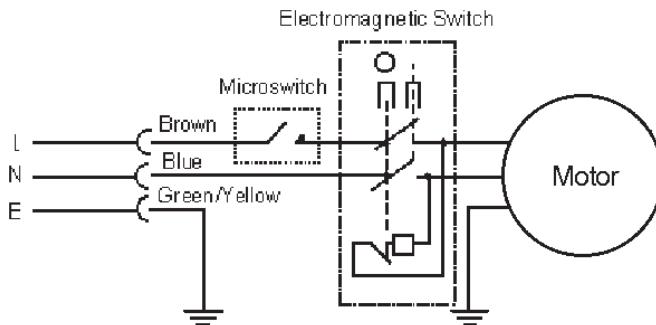
Connect BROWN cord to terminal marked with a letter "L" or coloured RED.

Connect BLUE cord to terminal marked with a letter "N" or coloured BLACK.

If this appliance is fitted with a plug which is moulded onto the electric cable (i.e. non-rewirable) please note:

1. The plug must be thrown away if it is cut from the electric cable. There is a danger of electric shock if it is subsequently inserted into a socket outlet.
2. Never use the plug without the fuse cover fitted.
3. Should you wish to replace a detachable fuse carrier, ensure that the correct replacement is used (as indicated by marking or colour code).
4. Replacement fuse covers can be obtained from your local dealer or most electrical stockists.
5. The fuse in the plug must be replaced with one of the same rating (**13 amps**) and this replacement must be ASTA approved to BS1363.

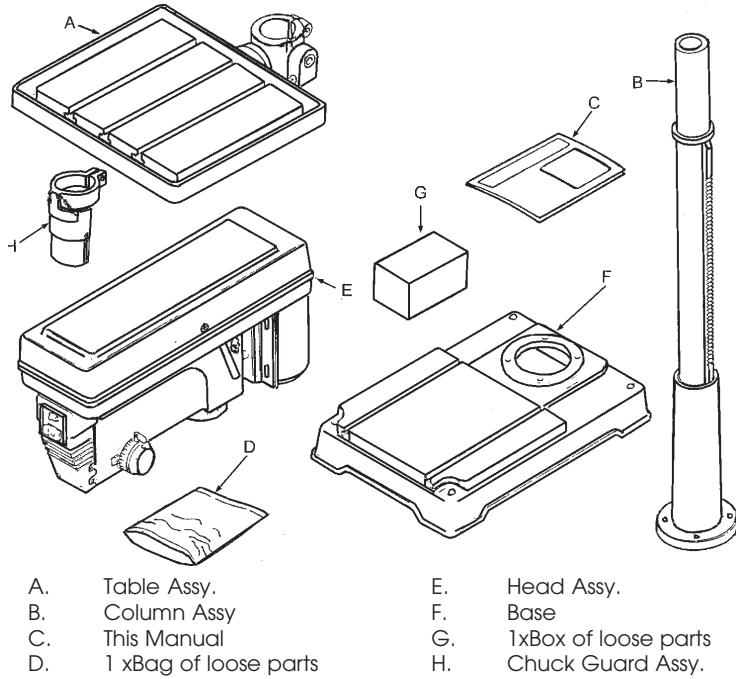
# WIRING DIAGRAM



# PREPARATION

On receipt, carefully unpack the components, ensuring that no damage was suffered in transit, and that all parts are accounted for.

The following loose items are to be found in the packing case.



A. Table Assy.  
B. Column Assy  
C. This Manual  
D. 1xBag of loose parts

E. Head Assy.  
F. Base  
G. 1xBox of loose parts  
H. Chuck Guard Assy.

## Loose Items in Box and Bag



Check the parts against the above list and refer to the above diagrams.

Should there be any deficiencies or damage, please contact your CLARKE dealer immediately.

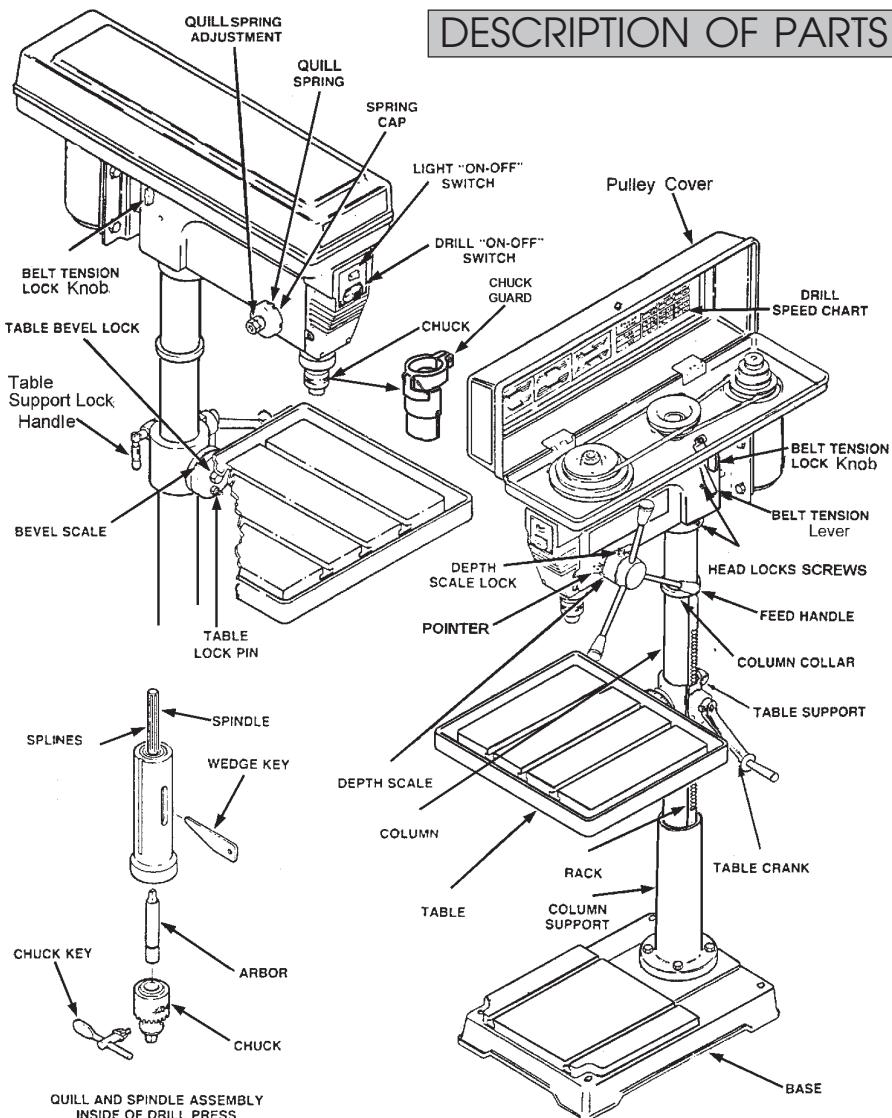
Remove all traces of preservative from the components with paraffin or a good quality solvent, and wipe all parts thoroughly with a clean dry cloth. Apply a coating of wax paste or light oil, to the table, column and base, to prevent rust.

Take the necessary precautions when lifting components, considering their weight.  
**Assistance will be required.**

Before use, the machine must be securely bolted to a floor of sufficient strength to withstand the weight of the drill press plus anticipated work. If necessary get professional advice.

Ensure the location is adequately lit, and that you will not be working in your own shadow.

## DESCRIPTION OF PARTS



# ASSEMBLY

## CAUTION!

**DO NOT ATTEMPT TO ASSEMBLE THIS MACHINE SINGLE HANDED..ASSISTANCE MUST BE USED**

### A. Column Assembly to Base (Ref Parts List/Diagram page 18)

**NOTE:** Ideally, the base should be firmly bolted to the floor prior to assembly of other components. The mounting surface must flat, level, and capable of supporting the weight of the drill plus anticipated work.

With the Base on a flat level surface, bolt on the Column Support (8) complete with Column and Table Support, using the 4, M12 Hex head screws (9) provided, and tighten them fully.

### B. Mounting the Table Assembly

1. From the box of loose parts, locate the worm, and install it in the Gear Housing of the Table Support, liberally greased and pushed fully home.
2. Push the the crank on to the worm spigot, protruding from the gear housing, as far as it will go and tighten the crank's grub screw on to the flat on the spigot.
3. Screw the crank handle into the crank and tighten fully.
4. Slacken the Collar grub screw (see fig.2), using the 3mm hex. wrench provided, and remove the Collar and Rack from the Column.
5. With assistance, raise the table and insert the rack into the Gear Housing with the long smooth end uppermost, as shown in fig. 3, and engaged with the gear within the housing.
6. Lower the complete assembly down on to the Column so that the lower end of the rack rests in the 'vee' created between the Column Support and the Column, then screw in and nip up the Table Support Locking Handle to secure the table temporarily in this position.

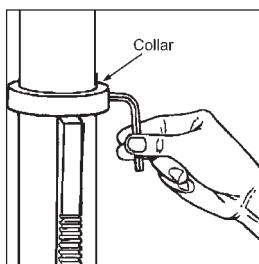
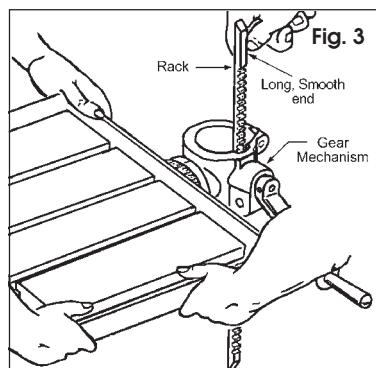
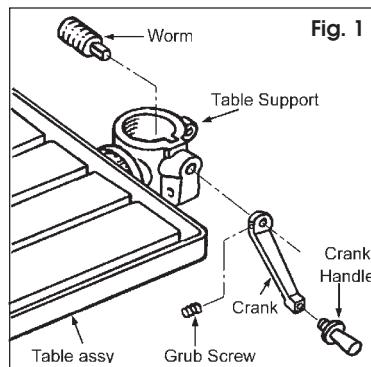


Fig. 2

7. Slide the top collar back into place and tighten the grub screw, ensuring there is sufficient clearance between the collar and the Rack to allow the Rack to move smoothly within the Collar (as the table swings around the column), without appreciable slack. It will be necessary to slacken the Table Support Locking Handle to test its operation. Check also to ensure the table moves smoothly and freely from top to bottom of the Rack, by winding the crank.

## C. Head to Column

**NOTE:** It may be necessary to unscrew the Head Lock Set Screws (A, fig.4) slightly, to ensure they do not protrude internally as this would prevent the head from sliding fully into position.

1. With assistance, raise the head and locate it on top of the Column.
2. Align the head with the base, and firmly secure with the set screws provided, (A- Fig.4).
3. Locate the three feed handles (items 18 & 19 page17), and screw them firmly into the hub of the spindle feed shaft (item 20, page 17).

Fig. 4

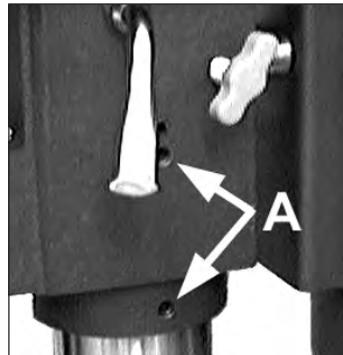


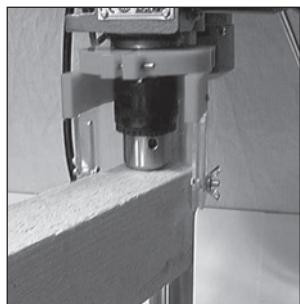
Fig. 5

## D. Chuck Guard Assembly.

**NOTE:** This operation should be carried out before the chuck is installed.

Slide the Chuck Guard over the Quill Shaft, turn it so that the pinch bolt faces the front (as shown in fig.5), then nip up the pinch bolt to temporarily secure it in this position.

**IMPORTANT:** Ensure the Quill Shaft/Spindle is at the top of its travel.



## E. Installing the Chuck.

1. With the chuck guard lifted clear of the spindle nose, wind the table up the column and secure it to within 6" of the spindle.
2. Open the jaws of the chuck to their maximum, using the chuck key supplied.
3. Put a piece of scrap wood on to the table to protect the chuck nose.
4. Ensuring all parts are thoroughly clean, dry, and burr free, Slide the arbour into the Quill and push home, turning as you do so, to ensure the tang, on its end, seats correctly. Place the chuck over the end of the arbour and pull the spindle down using the feed handles, pressing the chuck jaws hard against the piece of scrap wood until the chuck is forced home. (Fig.4).

Fig.6

## F. Fitting the Drive Belts.

1. Undo the Belt Tension Lock Knobs (one either side of the head - A-Fig.6), and turn the Belt Tension Lever (B) clockwise to bring the Motor Pulley closer to the Spindle Pulley. This will allow the belts to be slipped on with ease.
2. Lubricate the Idler Pulley Pivot shaft (item 4, page 19) and Idler Pulley, with light grease and install in its' mounting between the Motor and Spindle Pulleys.
3. Consult the chart inside the belt cover (duplicated on page 14), and fit the belts in the positions corresponding to spindle/drill speed required.



4. Turn the Belt Tension Lever (B - fig.6), anticlockwise so that tension is applied to the belts. Tension is correct when the belts deflect by approx.  $\frac{1}{2}$ " at their centres of run when using reasonable thumb pressure. Lock the motor in this position with the Lock Knobs.

**NOTE:** The idler pulley will 'float' so that tension is applied equally to both belts

### CHECKING THE OPERATION OF THE MICROSWITCH

#### IMPORTANT:

When closing the pulley cover, check the operation of the Microswitch. It is important that it operates immediately the cover is pulled open, to stop the motor,.....NOT when the cover is opened sufficiently for fingers to be inserted.

If necessary, bend the actuating tab, which is attached to the cover, to ensure this.

## G. Pulley Cover Knob.

Locate the knob, with pan head screw, and attach to the cover, screwing on tightly.

## SETTINGS and ADJUSTMENTS

### 1. Table.

Fig. 9

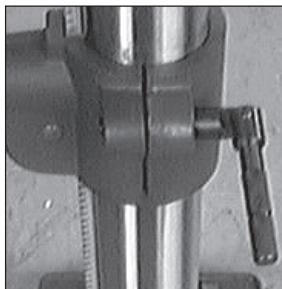


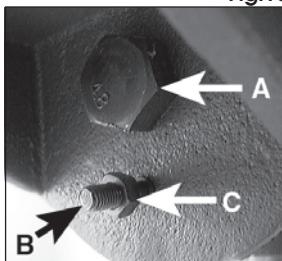
Table Support  
Locking Handle

rack and collar. Tighten the grub screw when satisfied.

The table may also be tilted, as shown in fig.8, as follows:  
The table is secured to the table support with a single M20x50mm screw, shown at A - fig. 10, and is located by peg B.

In order to tilt the table, it is first of all necessary to remove peg B. This is achieved by screwing the nut - C, clockwise i.e. screwing 'in'. The peg will be drawn out as you do so.

Fig.10



The table may be raised, lowered or swivelled about the column, by slackening off the table support locking handle, (Fig.9), adjusting accordingly, using the table crank, and retightening the locking handle.

If the table assembly moves stiffly when being swivelled about the column, slacken the upper collar grub screw (at the rack) to allow the collar to move very slightly, thereby providing a little more clearance between

Fig. 8



Table shown tilted and swivelled about the column

With the locating peg removed, slacken off the securing screw - A, and tilt the table to your desired angle, as indicated on the scale, shown in fig. 11, then tighten the securing screw A. For all normal operations, the table should be set to  $0^\circ$  and located by peg B, fig.10..

To return the table to its normal position, slacken the securing screw - A, and tilt the table so that the mark on the table lines up with the  $0^\circ$  mark on the tilt scale, as shown in fig. 11. Nip up the securing screw (do not tighten).

Fig. 11

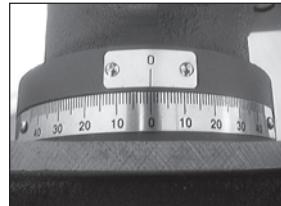


Table Tilt Scale

## 2. Spindle Depth. (Ref. Fig. 12)

Located around the spindle feed shaft is a Depth Stop Collar, carrying a graduated scale (A). The collar is capable of turning about the shaft, and may be locked in place by a Locking Screw (B). Graduations are imperial (inches) and metric (mm).

To set a drilling depth:

1. Lower the drill (with the power OFF) so that it contacts the work, and hold in that position.
2. Slacken off the locking screw, and turn the collar so that the measurement for the depth of hole required is in line with the pointer (C). Lock the collar in this position using the locking screw.

The drill is now set to drill holes to your pre-determined depth, from that particular start point. i.e. Providing the surface of your workpiece is flat and level, you may drill a series of holes, each to the same depth.



## 3. Changing Drill (Spindle) Speed.

Before changing the speeds, ensure the machine is switched OFF, and disconnected from the mains supply.

1. Undo the Belt Tension Lock Knobs (A - fig.13), one either side of the head and turn lever B clockwise to relieve any tension on the belts. Referring to the chart inside the belt cover (which is duplicated on page 14), fit the belts in the positions corresponding to the spindle speed required.
2. Lever the motor, on its bracket, away from the head, by turning lever B - fig.13, anti-clockwise so that tension is applied to the belts.

Fig. 13



**NOTE:** The idler pulley will 'float' so that tension is equally applied to both belts

Tension is correct, when the belts deflect by approx.  $\frac{1}{2}$ " at their centre when using reasonable pressure with the thumb and forefinger.

Lock the motor in this position tightening the two lock knobs - A.

**NOTE:** If the belt should slip whilst drilling, adjust the belt tension.

## OPERATION.

1. Insert the drill bit into the jaws of the chuck by approx 1", ensuring that the jaws do not touch the flutes of the drill. Before tightening the chuck, ensure that the drill is centred within the jaws.
2. Ensure the table height and position is set so that drill travel is sufficient for the job in hand.
3. Ensure the work is securely clamped, or held in a drill vice bolted to the table. Never hold it with bare hands. Severe personal injury may be caused if the workpiece is whipped out of the operator's hand, and, damage to the machine incurred if the work strikes the column.

If the piece is of irregular shape and cannot be laid flat on the table, it should be securely blocked and clamped.

Any tilting, twisting, or shifting, results not only in a rough hole but also increases drill breakage.

4. For small workpieces that cannot be clamped to the table, use a Drill Press Vice. The vice must be clamped or bolted to the table.
5. When drilling completely through wood, always position a piece of scrap wood between the workpiece and the table to prevent splintering on the underside of the workpiece as the drill breaks through.

The scrap piece of wood must make contact with the left side of the column as shown in Fig 14. In addition, set the depth of drill travel so that the drill cannot possibly come into contact with the table, or, align the table so that the hole in its' centre is in line with the drill bit.

6. When completely satisfied that the setup is sound, lower the Chuck Guard into place and switch the machine ON by raising the switch cover, as shown in fig. 15, and pushing the 'I' button. To switch OFF, hit the switch cover which will push the 'O' button, turning the machine OFF.

### NOTE:

- a. As a safety feature, the ON/OFF switch is a No Volt Release type. Therefore, if the power is interrupted whilst the machine is switched ON, it will not automatically start when the power is restored.
- b. A Micro switch is provided within the Pulley Cover which prevents the machine from operating unless the Pulley Cover is firmly closed.
- c. A lamp is provided, built into the head. The switch is located on the front panel, directly below the ON/OFF switch

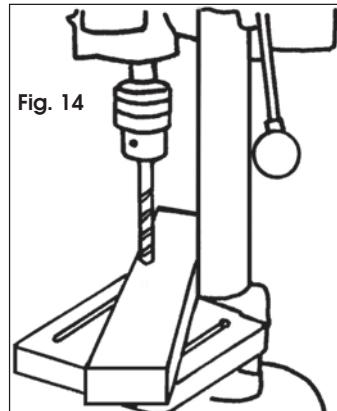


Fig. 15

**Drill Press Vices, Cross Vices and Clamps,  
are available from your CLARKE dealer.**

## REMOVING THE CHUCK

To remove the chuck, pull the spindle down fully, using the feed handles. The slot in the side of the Quill will become visible, as shown in fig. 14. Note the position of the chuck, perhaps by placing a chalk mark, in line with the chuck, on the column, then raise the table so that it is only an inch or so below the position marked.

Place a thick cloth, or similar, on the table to catch the chuck, to prevent damage when it drops, then pull down the spindle once more, until the slot in the Quill tube is visible. Insert the drive wedge into the slot and give it a sharp tap, preferably with a copper hammer. This will break the seal between the quill tube and the arbour, allowing the chuck to fall free, on to the cloth on the table.

To disconnect the chuck from the arbour, give it a sharp tap with a soft head mallet to break the taper seal.

NOTE: Morse taper drills (MT2), may also be used with this machine, and are inserted into the Quill to replace the arbour. Removal is the same as that for removing the chuck.

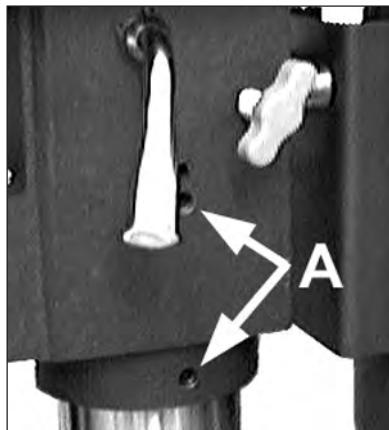


Fig. 16

## MAINTENANCE

For maximum performance it is essential that the Drill Press is properly maintained. Always inspect before use. Any damage should be repaired and faults rectified.

If the mains lead is worn, cut or damaged, in any way, it should be replaced immediately. Refer to the trouble shooting chart on page 15. If you are unable to rectify faults, contact your local dealer or Clarke International Service Division on 020 8556 4443 for assistance.

**After use.....** Remove all swarf from the machine and thoroughly clean all surfaces. Components should be dry, with machined surfaces lightly oiled.

### Monthly (When in constant use)

- Check tightness of mounting bolts, and, head and column securing set screws.
- Check belt for wear and replace if frayed or damaged in any way.
- Blow out any dust that may have accumulated in the motor fan.
- Apply a thin coat of wax paste or light oil to the table and column, for lubrication and to help prevent corrosion.

### NOTE:

Always remove drill bits and store in a safe place.

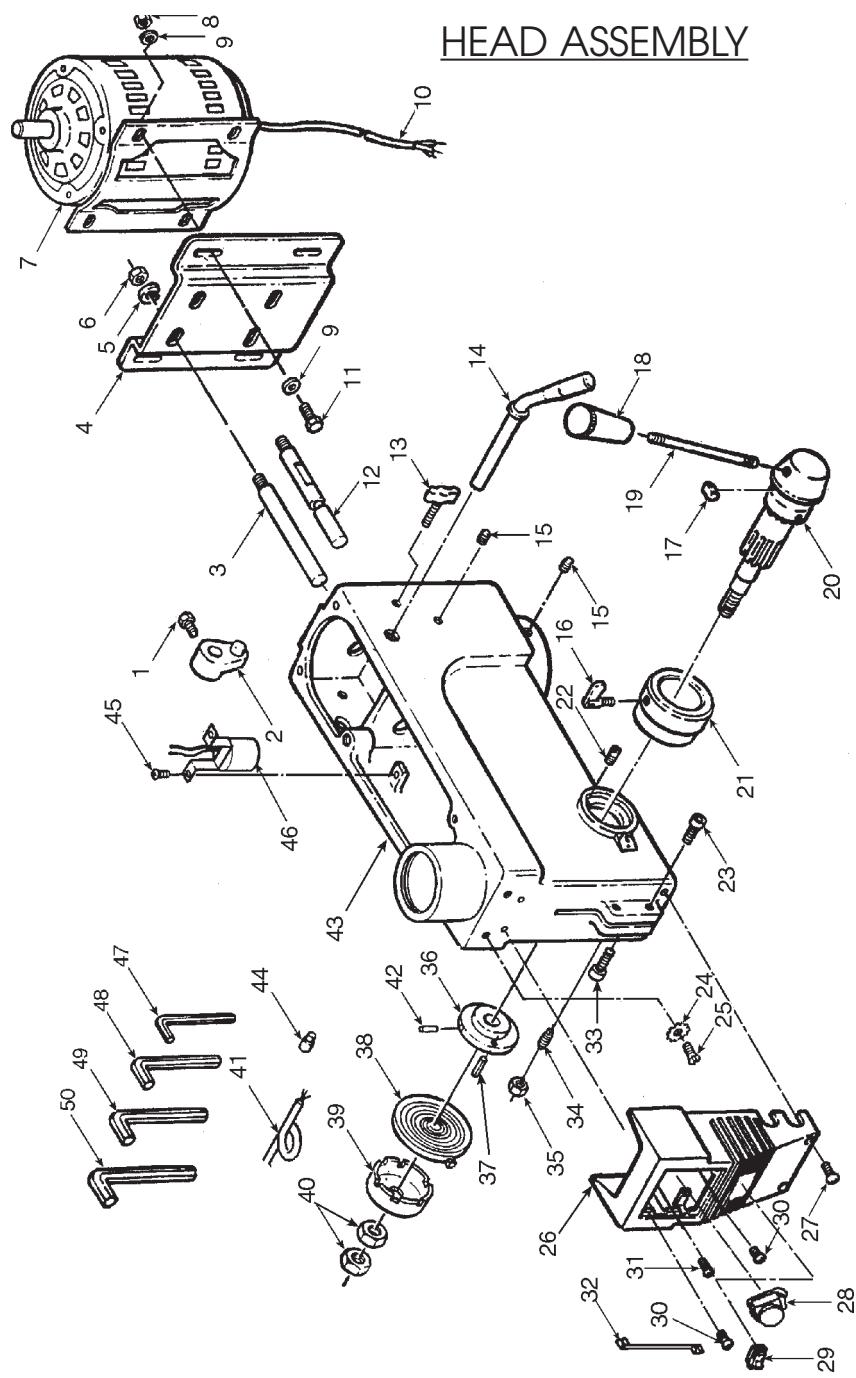
All bearings are packed with grease at the factory and require no further lubrication.

## TROUBLE SHOOTING

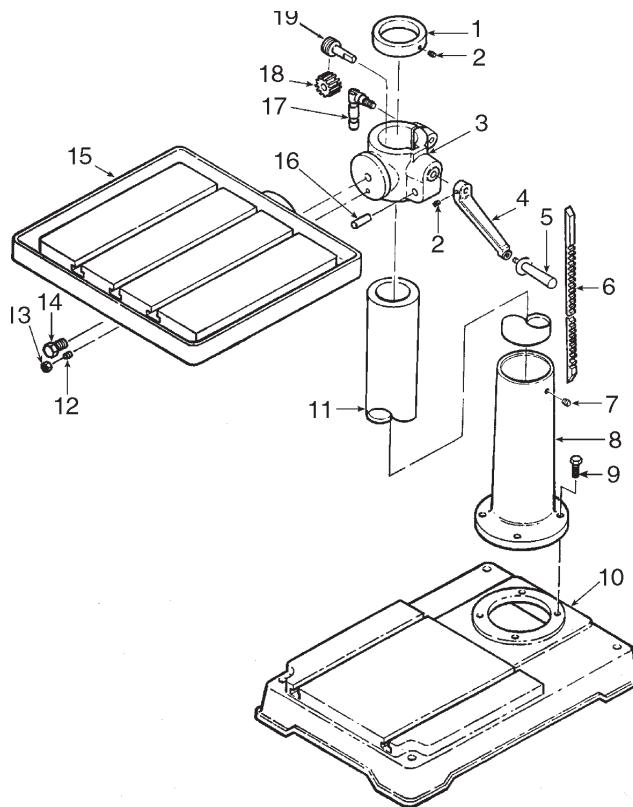
<b>PROBLEM</b>	<b>PROBABLE CAUSE</b>	<b>REMEDY</b>
Noisy operation (under load)	A) Incorrect belt tension B) Dry spindle C) Loose pulley D) Worn bearing	A) Adjust tension B) Remove spindle/quill assembly and lubricate C) Tighten pulley D) Replace bearing
Excessive drill wobble	A) Loose chuck B) Worn spindle, or bearing C) Worn chuck D) Bent drill	A) Tighten by pressing chuck down on to a block of wood against the table. B) Replace spindle shaft or bearing C) Replace chuck D) Renew Drill
Motor won't start	A) Power supply B) Motor connection C) NVR Switch connections D) Faulty switch E) Motor windings burned F) Pulley Cover not closed G) Micro Switch inoperative	A) Check power cord/fuse B) Check motor connections C) Check switch connections D) Replace switch E) Replace motor F) Close pulley cover. G) Check operation of micro switch, See P11 - and renew if faulty
Drill binds in workpiece	A) Excessive feed pressure B) Loose belt C) Loose drill D) Incorrect drill speed. E) Drill profile incorrect for type of material	A) Apply less pressure B) Check belt tension C) Tighten drill with key D) Refer to Cutting Speed chart, and adjust drill speed accordingly E) Consult an appropriate manual re. Materials, Drills and Cutting Angles, and sharpen drill accordingly.
Drill burns or smokes	A) Incorrect speed. B) Chips are not discharging C) Dull drill or incorrect profile for material D) Lack of coolant E) Excessive feed pressure	A) Refer to Cutting Speed chart, and adjust drill speed accordingly B) Clean drill C) As 'E' above D) Use coolant whilst drilling E) Apply less pressure
Table difficult to raise	A) Needs lubrication B) Table lock tightened	A) Lubricate with light oil B) Loosen clamp

No.	Description	Part No.
1	Hex. Hd Screw M8 .....	3044500
2	Adjusting Lever .....	DD16102006
3	Motor Bracket .....	DD20102003
4	Motor Mounting .....	DD16102007B
5	Lockwasher 12mm .....	DDGB93-87
6	Hex. Nut M12 .....	3040603
7	Motor .....	DDYL8034
8	Hex Nut. M8 .....	3040601
9	Washer M8 .....	DDGB972-85
10	Motor Cable .....	DD20102016
11	Hex. Screw M8 .....	3040502
13	Belt Tension Lock Knob .....	DD16102005
14	Belt Tension Lever .....	DD21002004
15	Skt. Screw Set M10 .....	DDGB80-85
16	Depth Screw Lock .....	DD16104012
17	Scale Guide .....	DD16104004
18	Knob .....	DD20104011
19	Feed Handle .....	DD21004005
20	SpindleShaft .....	DD16104000
21	Depth Stop Collar w/Scale .....	DD6104003
22	Stop Pin .....	DD16104010
23	Skt. Screw Hd. M8 .....	3040502
24	Lock washer Ext. M5 .....	DDGB8621-87
25	Pan Hd.Screw M5 .....	DDG8818-85
26	Switch Box .....	DD20102008
27	Pan Hd Screw Cr M6 .....	3040543
28	No Voltage Switch .....	DD1KJD12
29	Light Switch .....	DDRF1001
30	Self Tapping Screw .....	DDGB845-85
31	Pan Hd Screw M6 .....	DDG8818-86
32	Lead .....	DD16102018A
33	Skt. Hd. Screw Cap M8 .....	3044503
34	Special Screw Set M10 .....	DD16102021
35	Hex Nut. M10 .....	3040602
36	Quill Spring Seat .....	DD20104006
37	Roll Pin 6x16 .....	DDG8879-86
38	Quill Spring .....	DD20104008
49	Spring Cap .....	DD20104007
40	Hex Nut. M12 .....	3040603
41	Power cable .....	DD2002015C
42	Roll Pin 2.5 - 10 .....	DDGB879-86
43	Head w/Pointer & Trim .....	DD20102001
44	Connector Wire .....	DD16102019
45	Pan Cr Screw M6 .....	3040420
46	Bulb Socket .....	DD16102013B
47	Allen Key M3 .....	DDGB5356-86A
48	Allen Key M4 .....	DDGB5356-86B
49	Allen Key M5 .....	DDGB5356-86C
50	Allen Key M6 .....	DDGB5356-86D

## HEAD ASSEMBLY

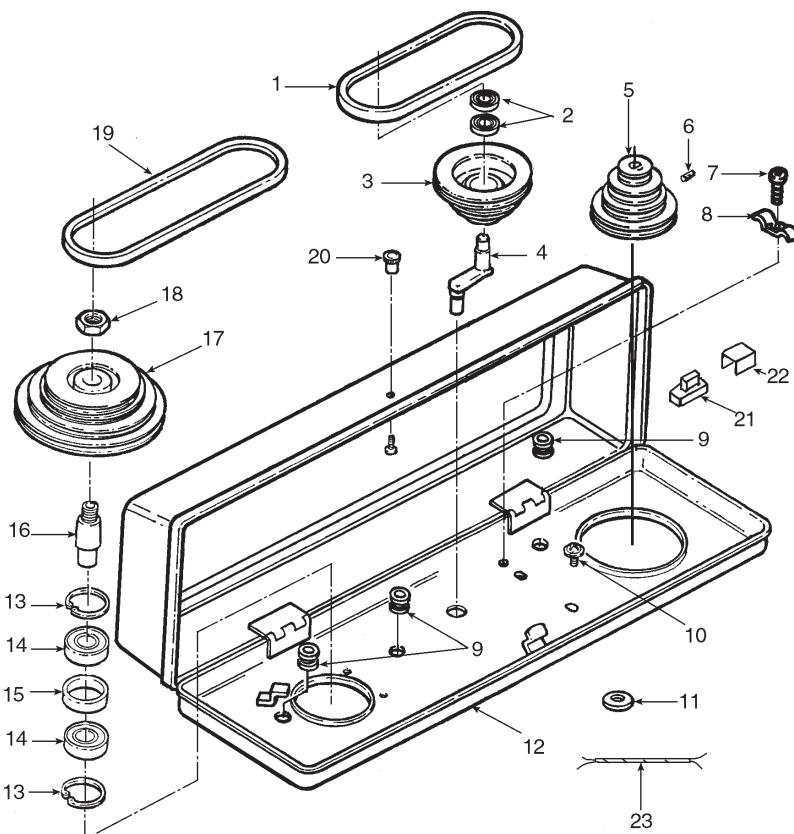


## BASE ASSEMBLY



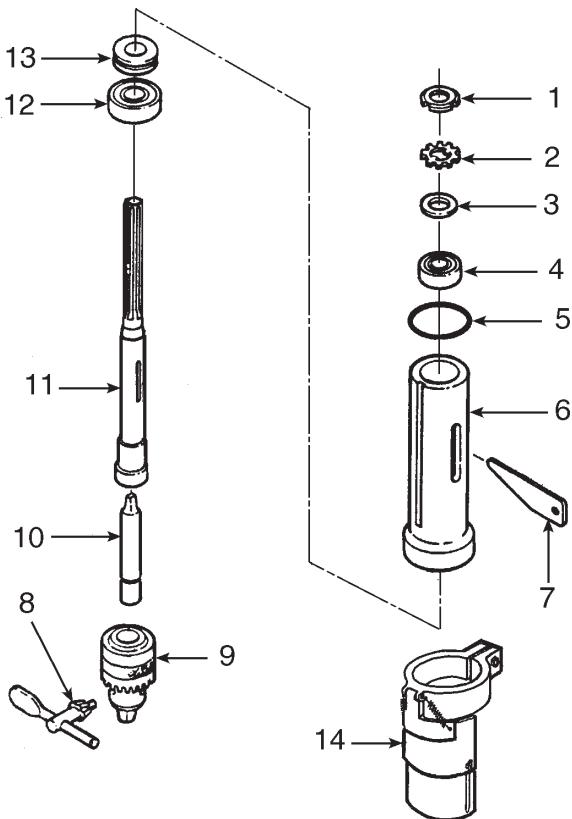
No.	Description	Part No	No.	Description	Part No.
1	Collar	DD20102011	11	Column	DD20101003
2	Hex. Skt. Screw Set M6	DDGB80-85	12	Table Locking Pin	DD20101015
3	Table Support w/Indicator	DD20101004	13	Hex. Nut M8	3040601
4	Crank	DD20101009	14	Hex. Hd.Screw M20	3040445
5	Crank Handle-	DD2001009-1	15	Table - w/Scale	DD20101014
6	Rack	DD20101010	16	Gear Pin	DD16101007
7	Hex. Skt Screw Set M10	3040430	17	Table Sup't Lock Handle	DD16101012
8	Column Support	DD20101002	18	Helical Gear	DD16101006
9	Hex. Hd Screw M12	3040530	19	Worm	DD20101008
10	Base	DD20101001			

## PULLEY COVER



No.	Description	Part No.	No.	Description	Part No.
1	"V" Belt A29	DD16205011	13	Circlip	DD20104024
2	Ball Bearing 15mm	BRG60202	14	Ball Bearing 60206	BRG60206
3	Idler Pulley	DD20105006	15	Bearing Spacer	DD20102023
4	Idler Pivot	DD20105007	16	Pulley Insert	DD20102022
5	Motor Pulley	DD20105005B	17	Pulley Spindle	DD20105009
6	Skt Screw Set M8	3040528	18	Pulley Nut	DD20102025
7	Pan Hd. Screw M5	3040656	19	"V" Belt A33	DD20105010
8	Cable Clamp	DD20102014	20	Knob	DD16105008
9	Rubber Bushing	DD20105012	21	Micro switch	DDXN5
10	Rd Hd. Washer Screw	3040650	22	Micro sw. Cover	See dealer
11	Foam Washer	DD13105009	23	Lead	DD20102029
12	Pulley Cover w/Labels	DD20105000			

## QUILL ASSEMBLY

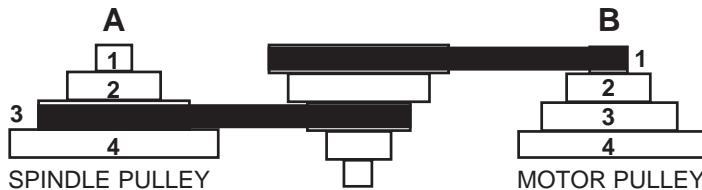


No.	Description	Part No.	No.	Description	Part No.
1	Lock Nut M20	DD20103005	8	Chuck Key	DD20103010
2	Lockwasher	DD20103004	9	Chuck JT3	DDJ2220
3	Flat Washer	DD20103003	10	Arbour MT3-JT3	DD20128
4	Ball Bearing 60204	BRG60204	11	Spindle	DD20103001
5	O-Ring	DD20103006	12	Ball Bearing 80206	BRG80206
6	Quill	DD20103002	13	Thrust Washer	DDGB301-87
7	Wedge Drift	DD16103008	14	Chuck Guard	DD20108001

## DRILL SPEED TABLE

The table below gives the belt arrangements for given drill speeds. The diagram shows the belts fitted to A3 and B1, giving a drill speed of 250RPM.

A full chart is also located on the inside of the pulley cover.



	Spindle Pulley		Drill Speed RPM	Spindle Pulley		Drill Speed RPM
	A	B		A	B	
1	4	1	120	7	1	880
2	4	2	200	8	2	1180
3	3	1	250	9	3	1250
4	2	1	360	10	1	1720
5	3	2	400	11	2	1850
6	4	3	450	12	1	2700

## SPARE PARTS AND SERVICING

Please contact your dealer, or CLARKE International, on the following numbers.

**PARTS - 020 8558 6696 : SERVICE - 020 8556 4443**

**PARTS & SERVICE FAX - 020 8558 3622**

**or e-mail as follows:**

**PARTS: [Parts@clarkeinternational.com](mailto:Parts@clarkeinternational.com)**

**SERVICE: [Service@clarkeinternational.com](mailto:Service@clarkeinternational.com)**

## CUTTING SPEEDS

Factors which determine the best speed to use in any drill press operation are:

1. Kind of material being worked.
2. Size of hole.
3. Type of drill.
4. Quality of cut desired.

Generally, the smaller the drill, the greater the required RPM. In soft material, the speed should be higher than for hard metals.

As a guide, the drill speed for a given drill bit size, is according to the table below.

Speed Range (RPM)		2700	1720 - 1850	1180 - 1250	880	450	360 - 400	120 - 250
Wood	in	1/4	3/8	5/8	-	-	-	-
	mm	6.4	9.5	16	-	-	-	-
Zinc	in	3/16	1/4	3/8	1/2	5.8	-	-
Diecast	mm	4.8	6.4	9.5	12.5	16	-	-
Alum & Brass	in	1/8	3/16	3/8	1/2	11/16	-	-
	mm	3.2	4.8	9.5	12.5	17.5	-	-
Plastic	in	1/8	3/16	5/16	7/16	1/2	5/8	-
	mm	3.2	4.8	7.9	11	12.5	16	-
Cast Iron & Bronze	in	3/32	1/8	1/4	11/32	1/2	5/8	-
	mm	2.4	3.2	6.4	8.75	12.5	16	-
Mild Steel & Malleable	in	1/16	3.32	5/32	1/4	3/8	1/2	-
	mm	1.6	2.4	4	6.4	9.5	12.5	-
Cast Steel & Med Carbon	in	3/64	1/16	1/8	3/16	5/16	7/16	9/16
	mm	1.2	1.6	3.2	4.8	7.9	11	14.5
Stainless and Tool Steel	in	1/32	3/64	1/16	1/8	1/4	3/8	1/2
	mm	0.8	1.2	1.6	3.2	6.4	9.5	12.5

## SPECIFICATIONS

Motor .....	230VC, 50Hz, 1 Ph
Power Rating .....	980Watts
Current Rating .....	4.3Amps
Speed .....	1400RPM
No. of Drill Speeds .....	12
Speed Range .....	120 - 2,700RPM
Fuse Rating .....	13Amp
Light Bulb Type .....	E27- Screw - 60Watt
Chuck Size .....	20mm
Spindle Taper .....	MT3
Table Type .....	Square - Wet
Table Dimensions .....	425x475mm
Table T-Slot Dimensions .....	15x355mm x3
Max. Spindle Travel .....	120mm
Max. Dist. Chuck to Table .....	706mm
Max. Dist. Chuck to Base .....	1095mm
Column Dia. ....	92mm
Quill Collar Dia. ....	74mm
Dist. Column to Chuck Centre .....	257mm
Overall Dimensions .....	1680x575x850mm
Belt Type A .....	1 x A33 - 838
Belt Type B .....	1 x A29 - 737
Weight .....	150kg

## OPTIONAL ACCESSORIES

**Drill Press Vices, from 3" to 6", Cross Vices (Cast Iron),  
and Table Clamps  
are available from your CLARKE dealer**